

## Claims:

1. Process for removing  $\text{AlCl}_3$  from a compound mixture (C1) comprising organochlorosilanes and having an  $\text{AlCl}_3$  content of  $> 200$  ppm based on the content of organochlorosilanes, in which the compound mixture (C1) is diluted with compounds (C2) which are selected from organochlorosilanes or mixtures of chloromethane and organochlorosilanes in such a way that a product stream (P) with  $< 15\%$  solids at a simultaneous concentration of  $< 25\%$  of components having a boiling point  $> 71^\circ\text{C}$  at 1013 hPa is obtained, and this product stream (P) is separated in an evaporator unit at a temperature  $< 165^\circ\text{C}$  into volatile compounds (VC) and  $\text{AlCl}_3$ -containing solid (S), all concentration data being based on the weight.
2. Process according to Claim 1, in which the compound mixture (C1) comprising organochlorosilanes stems from the direct synthesis of alkylchlorosilanes or from the  $\text{AlCl}_3$ -catalysed high boiler cleavage of the by-products of the direct synthesis.
3. Process according to Claim 1 or 2, in which the organochlorosilanes are alkylchlorosilanes of the general formula  $\text{R}_a\text{H}_b\text{SiCl}_{4-a-b}$  in which a is 1, 2, 3 or 4, b is 0, 1 or 2, and R is a methyl, ethyl, butyl or propyl radical.

4. Process according to Claims 1 to 3, in which the evaporator unit used is a unit for spray evaporation, thin-layer or thin-film evaporation.